

REMARKS

Applicants thank the Examiner for the thorough examination given the present application. Claims 1-19 are currently being prosecuted. The Examiner is respectfully requested to reconsider her rejections in view of the amendments and remarks as set forth below.

Rejection under 35 USC 102

Claims 1-19 stand rejected under 35 USC 102(b) as being anticipated by MORITZ et al., U.S. Patent 6,042,222. This rejection is respectfully traversed.

The Examiner indicates that the MORITZ et al. reference teaches every element of the invention and points out the actuator 58 connecting to a fluid inlet channel 50 by way of a fluid inlet channel 50 and a fluid outlet channel. Applicants disagree with the Examiner's understanding of the reference.

The MORITZ et al. reference, which is described in the specification, has an actuator mounted in a firing chamber. However, the firing chamber is connected to the reservoir by way of a single path which is constricted in the middle. The Examiner suggests that the portion of the path between the firing chamber and the constriction is the outlet channel, and that the portion of the path between the constriction and the reservoir is the inlet channel. Applicants disagree that this understanding of the

reference reads on the claims. Claim 1 describes a fluid inlet channel as connecting the exterior of the channel barrier to the interior of the firing chamber. In MORITZ et al., the part of the path identified by the Examiner as the inlet channel is connected to the exterior of the channel barrier, but is not connected to the interior of the firing chamber. Rather, it is connected to the inner part of the path which the Examiner has identified as the outlet channel. Likewise, claim 1 describes the outlet channel as connecting the interior of the firing chamber to the exterior of the channel barrier. In the reference, the part of the path identified by the Examiner as the outlet channel connects the interior of the firing chamber to the fluid inlet channel. Thus, Applicants submit that the connections described in claim 1 are not met by this reference. Furthermore, Applicants have amended claim 1 to make it clear that the fluid outlet channel is separate from the fluid inlet channel. Thus, these two channels must be separate and not opposite ends of the same channel. Thus, Applicants submit that claim 1 is not anticipated by this reference.

The differences between these devices can easily be seen by comparing Fig. 2 of the present application with Fig. 4 of the reference. Rather than having a single path with a constriction in the middle, Applicants have provided two paths so that fluid going into and out of the firing chamber flows more easily. Applicants submit that the claim now makes it clear that two separate channels

are provided, rather than the single channel in the reference. This difference means that the fluid flows more easily and so that the working fluid is not being pulled in opposite directions during the ejection and refilling stage, which slows the operational speed.

Likewise, claim 10 cites a similar structure to claim 1 except that a plurality of channel barriers and actuators are provided for. Thus, each channel barrier has at least a fluid inlet channel and at least a fluid outlet channel. This is not anticipated by the reference for the same reasons recited above with regard to claim 1. Further, claim 10 has been amended in a similar fashion as claim 1, to further make it clear that the channels are separate. For this reason, claim 10 is likewise allowable.

Claims 2-9 depend from claim 1, and claims 11-19 depend from claim 10. These claims are allowable based on their dependency from allowable independent claims. In addition, each of these claims recite other features which are not seen in the references. For example, claim 6 includes a description of multiple fluid inlet channels for one channel barrier. Likewise, claim 7 describes multiple outlet channels. Claim 9 describes a consistent flow within one firing chamber and a reverse flow in adjacent firing chambers. Claims 13-18 describe the arrangement of the channels in adjacent modules. For these reasons, Applicants submit that the dependent claims are additionally allowable.

Conclusion

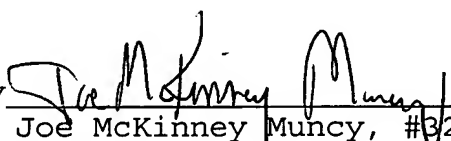
In view of the foregoing amendments and remarks, it is believed that the claims clearly distinguish over the patent relied upon by the Examiner. In view of this, reconsideration of the rejection and allowance of all claims are respectfully requested.

In the event that any outstanding matters remain in this application, the Examiner is invited to contact the undersigned at (703) 205-8000 in the Washington, D.C. area.


If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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